

DRAFT 8-30-04

(Based on discussions during the 8-27-2004 Audit Committee meeting)

2004 Audit Committee Draft Summary of Recommendations (Revision – 9-08-04)

The wastewater collection system owned by the cities and villages in the Milwaukee area as well as the Milwaukee Metropolitan Sewer District (MMSD) has recently been overwhelmed by the amount of stormwater which has been entering the system from both the combined sewer area as well as the separated sewer area. This has resulted in untreated sewage overflows and backups into the areas lakes, streams, and basements. MMSD clearly has specific responsibilities in this regard, including: 1) Elimination of Sanitary Sewer Overflows (SSOs) from the separated sewer system, 2) Elimination of sewer backups into homes caused by the public sewer system, and 3) Minimize and reduce the impact of Combined Sewer Overflows (CSOs). The committee recommendations are directed primarily at dealing with these three problem areas.

- I. Reduce wet weather flow into the sewer system.
 - a. Activities must address infiltration and inflow (I/I) reduction in the separate sewer service area, and combined sewer runoff reduction in the combined sewer service area. Wet weather flows into the system have reached a level which is causing separated system overflows which must be eliminated. This cannot occur unless both the combined sewer area and the separated sewer area undertake programs to reduce flows to an acceptable level.
 - b. All MMSD communities have ordinances making stormwater connections to the separate sewer illegal. MMSD must ensure that all communities enforce these ordinances.
 - c. MMSD should develop an I/I management program that provides for the cost effective reduction of I/I in existing service areas and significantly limits I/I from future development. The program would need to be enforceable, rapidly implementable, fundable, supportable by communities, and measurable. The program must include comprehensive and consistent I/I investigations in all communities which identifies the source of the I/I problems and what the costs and benefits would be to controlling these sources. Based on the results of these investigations an ongoing program of I/I control and reduction would be developed. An identification of and a program to reduce I/I from illegal connections, which have been identified and from other sources which would be cost effective to control, and a set of actions to insure that future I/I does not increase above an accepted rate should be the results of the program. Such actions could include: requirements to identify possible I/I from residences and commercial establishments at time of sale; programs to replace or repair defective or failing sanitary and storm sewers when streets, alleys and highways are repaired; provision for backflow preventors in areas experiencing

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basement backups; and testing of laterals for soundness following the reconstruction of buildings.

- d. MMSD should undertake a program with the County and the City of Milwaukee which will analyze the opportunities to reduce runoff in the combined sewer area including downspout disconnection, rain barrels, rain gardens, rooftop storage and flow restrictors, catch basin storage and other techniques. These techniques should be implemented where it is determined to be reasonable and will not create other problems.
- e. MMSD should establish maximum I/I levels for future development.

II. Additional actions to Reduce impact of or eliminate overflows

- a. MMSD should follow through on project commitments made in the Stipulation Agreement with WDNR.
- b. MMSD should prioritize projects that will accelerate reduction of existing overflows and eliminate sewer backups into homes.
- c. Using the results of the high rate treatment pilot project, MMSD should reduce impacts of untreated overflows in the combined system by implementing this type of treatment technology at appropriate CSO points.
- d. MMSD must make every attempt to reduce the need for blending by reducing system wet weather flows or adding treatment capacity. As a part to the blending effort, MMSD should also explore the feasibility and desirability of fast flow treatment of the flows diverted around the secondary treatment process.
- e. MMSD, the City of Milwaukee, and the County of Milwaukee should look at opportunities to reduce flows to the combined sewer area by partially separating portions of the combined sewer where the first flush pollutants could still be captured in the MMSD system. Examples of where this approach is already being pursued are the Marquette Interchange and Canal Street Reconstruction Projects. Complete separation of the existing combined system is not recommended at this time for a combination of reasons: the cost is prohibitive; the disruption of the downtown area would be enormous; and the impact on water quality would be negative because of the loss of the stormwater treatment, which currently occurs.

III. Regional Approach to Solutions

- a. Develop and implement a mechanism for meaningful and effective suburban input to implement the recommendations in this report in an atmosphere of cooperation so that all members of the sewered community feel included in decision-making.

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IV. Financing

- a. If determined to be cost-effective, MMSD should provide funding or incentives for private property owners who rehabilitate their private laterals.
- b. Establishment of a program which creates financial incentives to control and reduce flows within each community's sewer system. This program would involve a charge which could be for total flows or for a surcharge above a predetermined base flow within each community's system. The charge should reflect the cost of transporting and treating flows from that community including the maintenance of the overall system. Such a rate program should be designed to reward communities which control and reduce flows in their systems. Consideration should be given to putting at least a portion of the rates from such a charge into a fund to assist communities to control the flows into the MMSD and local sewer systems.

V. Enforcement

- a. Enact programs that ensure illegal contributions to sanitary system are eliminated.
- b. WDNR should be aggressive and equitable in SSO enforcement actions throughout the state. Communities in Wisconsin which have experienced SSOs should be required to eliminate them.

VI. Non-Point and Stormwater Pollution/ Beach Closures

- a. Water quality problems, such as beach closures, are not caused by MMSD overflows alone. Pollution from Non-point sources (NPS) and pollution contained in stormwater from separate stormwater collection systems must be addressed in order to achieve the water quality desired by the public. Stopping all MMSD overflows would not prevent most beach closings. There is a vacuum in assigned responsibility for and leadership in addressing NPS pollution. In light of this MMSD should aggressively continue its efforts to assist the region in dealing with these issues.
- b. All communities generate NPS pollution through their stormwater systems as well as direct runoff and contribute to the water quality impacts. A system of cost sharing for the treatment of stormwater in the metropolitan area should be developed which recognizes the benefits which result from such actions and the fact that MMSD currently bears the cost of a substantial volume of stormwater treatment for a portion of the Milwaukee area by virtue of the deep tunnel and the combined sewer discharges to the system.
- c. MMSD should contribute, within the limits of their authority and responsibility to solutions that reduce NPS pollution of tributary lakes and rivers, for example, improving stormwater management on

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parking lots that discharge without treatment into receiving waters near beaches.

- d. Other entities such as Milwaukee County should take actions that would have an immediate, cost-effective benefit on water quality near beaches. Such actions would include beach raking, and local stormwater control on and near the beaches.

VII. Public Education

- a. Educate public on MMSD's role in protecting and improving regional water quality.
- b. Research public expectations on water quality and sewer overflows.
- c. Communicate with public on four key things:
 - i. Nature of the regional water quality problem.
 - ii. Realistic goals for SSO and CSO.
 - iii. I/I Control goals.
 - iv. NPS and stormwater pollution control goals.

VIII. United Water Services (UWS) Oversight

- a. Succession Planning for Key Human Resources, to ensure that an adequate number of skilled technical staff will be available in the future to operate this highly complex system.
- b. Follow-up on 2003 UWS Performance Evaluation recommendations related to maintenance schedules on non-critical assets
- c. Work to achieve contract incentives pertaining to overflow prevention mentioned in 2003 Performance Evaluation.